Remarks

Claim Objections

Claim 10 is amended to refer to other claims only in the alternative by replacing reference to claim 5 with the content of claim 5.

Claim Rejections 35 USC 112

Claims 1-9, 11, 12 and 14 are rejected because of use of the term "substantially".

The objections to use of the term "substantially" as in "substantially perpendicular" is respectfully traversed. The specification, on page 3, lines 2 to 12 provides a thorough interpretation of the meaning of this term.

See for example, page 3, lines 8-12.

"Ideally, this is obtained with an exactly perpendicular orientation of the crystal axis. However, deviations arising from manufacturing technology, for example, can be tolerated to the extent that the resulting increasingly unequal thermal expansion can be tolerated. The tolerance of 5° represents a measure above which the embodiment would be little appropriate."

The objection to claim 14 is obviated by recital of claim 13 instead of 11.

Claim Rejections 35 USC 103

Claims 1-3, 6, 8 and 9 stand rejected as being unpatentable over Vernon in view of Szarmes.

Claim 4, 5, 7, 11, 12 and 14 stand rejected as being unpatentable over Vernon in view of Szarmes and further in view of Ashida.

Respectfully, the rejection based on Vernon in combination with other prior art is overcome by the certified copy of the priority application that was submitted on March 2,

1999, and the enclosed certified translation thereof showing a priority date of March 2, 1998, which is well before the filing date of Vernon (January 11, 1999). Consequently, the rejections of claims 1 to 14 are overcome.

Claims Rejections 35 USC 102

Claim 15 stands rejected as being anticipated by Hamada et al (Hamada).

The rejection of claim 15 is respectfully traversed: Column 4, lines 9-20 of Hamada clearly disclose a reflection-preventing coating made of CaF_2 applied to a pellicle membrane.

This pellicle membrane throughout Hamada is taught to be made of plastic (see abstract, claim 1 b, for example). Such has been cited in the present application on page 2, lines 15/16 with reference to Japanese Patent JP-A-4-081756. This is totally distinct from a pellicle (made) of fluoride crystal, in the same way as a gold plated brass spoon is not a golden spoon.

Wherefore, further consideration and allowance of the claims as amended is respectfully requested.

Enclosed is a Credit Card Payment Form PTO-02038 in the amount of $160 to cover 2 additional independent claims over three. Any other fee due by virtue of this filing or this application should be charged to Deposit Account 11-0665 . Any refunds in connection with this filing should be credited to Deposit Account 11-0665. A duplicate of this page is enclosed for this purpose.

Respectfully submitted,

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I hereby certify this correspondence is being deposited with the U.S. Postal Service as a first class mail in an envelope with adequate postage addressed to Commissioner for Patents, Washington, D.C. 20231 on March 20, 2001.

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"Version with Markings to show Changes Made"

Claim 1 (Amended): A reticle with support material [(10)] of transparent, optically uniaxial crystal, in which the principal axis [(A)] of said crystal is substantially perpendicular to the surface of said reticle [(1)].

Claim 2 (Amended): A reticle based on MgF_2 as support material, in which the principal axis of said MgF_2 is oriented substantially perpendicular to the surface of said reticle [(1)].

Claim 4(Amended): The reticle according to claim 1, further comprising a cooling device [(5, 13, 14, 50, 51, 52)].

Claim 5 (Amended): The reticle according to claim 4, in which said cooling device [(5, 13, 14, 50, 51, 52)] has a flowing fluid [(50)].

Claim 7 (Amended): The reticle according to claim 2, further comprising a cooling device [(5, 13, 14, 50, 51, 52)].

Claim 8 (Amended): An illumination equipment for microlithography comprising:

an illumination system [(2)], and

a reticle [(1)] with magnesium fluoride as support material [(10)],

in which said illumination system [(2)] provides radially polarized light [(20, P_L, P_R),] and said magnesium fluoride is oriented with its crystal principal axis substantially in the direction of the optical axis [(A)] at said reticle [(1)].

Claim 9 (Amended): An illumination equipment for microlithography comprising:

an illumination system [(2)],

a reticle [(1)] with support material [(10)] of transparent optically uniaxial crystal,

in which said illumination system [(2)] provides radially polarized light [(20, P_L, P_R),] and said support material [(10)] is oriented with its principal axis substantially in the direction of the optical axis [(A)] at said reticle [(1)].

Claim 10 (Amended): The illumination equipment according to [claim 6 or 7] claim 8 or 9 with a [reticle according to claim 5] cooling device with a flowing fluid.

Claim 11 (Amended): The reticle according to claim 6 [or 7], further comprising a fluid cooling system.

Claim 12 (Amended): The reticle according to claim 9, further comprising at least one flat plate [(13, 14)] arranged parallel at said reticle [(1)], in which a fluid [(50)] flows between said reticle [(1)] and said flat plate [(13, 14)].

Claim 13 (Amended): The reticle according to claim 10, in which said flat plate [(13, 14)] comprises crystal.

Claim 14 (Amended): The reticle according to claim 13 [11], in which said crystal comprises CaF_2 and MgF_2.

Claim 15 (Amended): The pellicle [(13, 14)] of fluoride crystal.

Claim 16 (Amended): The pellicle [(13, 14)] according to claim [13] 15, comprising a fluoride selected from the group consisting of CaF_2, BaF_2, or MgF_2.